

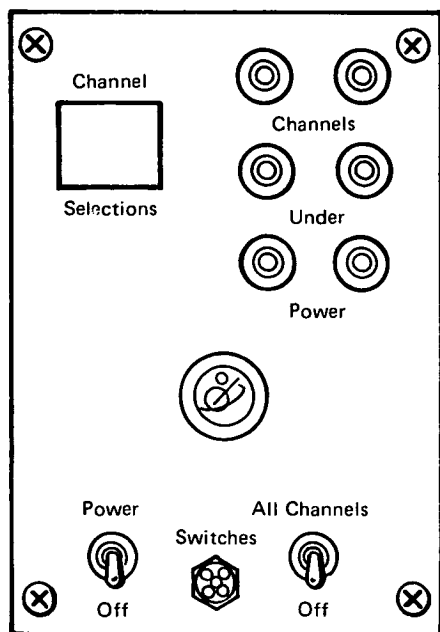
NASA TECH BRIEF

Langley Research Center

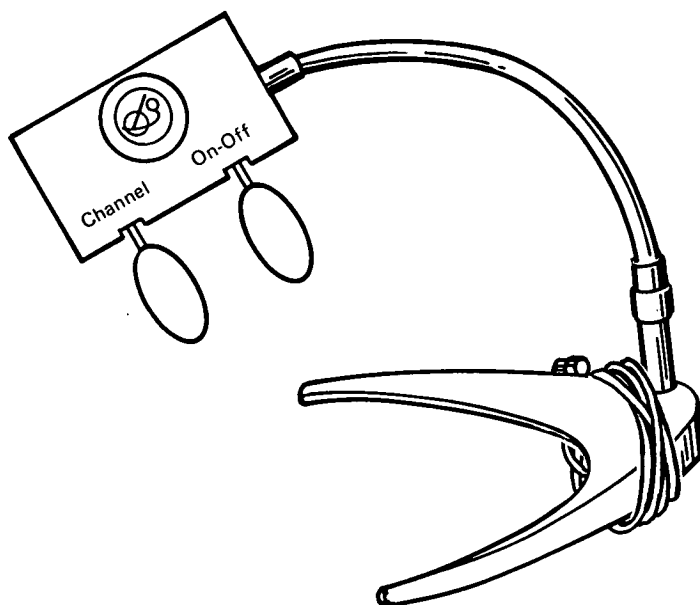


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Patient's Breath Controls Comfort Devices



Patient Assist Control



Breath-Actuated Switch

A patient assist system for totally disabled persons has been developed which permits a person, so paralyzed as to be unable to move, to activate by breathing, a call system to summon assistance, turn the page of a book, adjust their bed, or do any one of a number of other things.

The patient assist system consists of a patient assist control and a breath actuated switch.

The breath actuated switch is mounted in such a position that the patient can operate it by merely blowing gently on either of two switches. One switch selects the channel on the patient assist control that is associated with the electrical device (such as radio, television, etc.) that is desired, and the other switch controls the power to the selected channel by turning it either on or off.

The patient assist control is a logic unit which senses switch activations and controls the power application to the patient assist and comfort devices being used. It has a CHANNEL breath actuated switch which, when activated, triggers a decade counter in the logic unit. The decade counter is decremented by one count each time it is triggered; when it reaches zero, it automatically presets to the total number of assist or comfort device channels it provides. Thus, the decade counter selects each channel in sequence as it counts trigger pulses from the CHANNEL switch. The channel under selection at any time is displayed by a seven-segment indicator lamp located on the front panel of the control. Status of the power supplied to each channel is displayed by indicator lamps which are lighted when power is being supplied to the electrical device associated with that

(continued overleaf)

channel. When a channel is selected, power to that channel may be turned on or off by use of the ON-OFF breath actuated switch. The power to a device will not be changed by the activation of the CHANNEL switch as it selects different channels. The same ON-OFF switch controls the power to all channels, but only to the channel under selection at any given time.

The patient assist control can also operate through a remote power distribution unit if it is more convenient to connect the electrical devices to be controlled into a unit remote from a patient's bedside.

Note:

Requests for further information may be directed to:
Technology Utilization Officer
Langley Research Center
Hampton, Virginia 23365
Reference: B72-10533

Patent status:

NASA has decided not to apply for a patent.

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(LAR-11138)